

**CLAIMS:**

What is claimed is:

- 5    1. A method of performing a bulk read from a socket receive buffer, comprising:
  - initiating a bulk read function having a bulk read size;
  - determining if an amount of data in the socket receive buffer is equal to or greater than the bulk read size; and
  - activating the bulk read function only when there is an amount of data in the socket receive buffer equal to or greater than the bulk read size.
- 15    2. The method of claim 1, wherein the bulk read size is stored in a field in the socket structure.
- 20    3. The method of claim 1, wherein the bulk read size is a size identified by a user.
- 25    4. The method of claim 1, wherein the step of activating the bulk read function only when there is an amount of data in the socket receive buffer equal to or greater than the bulk read size is performed in response to setting of a flag in the socket structure.
- 30    5. The method of claim 4, further comprising:
  - checking a state of the flag in the socket structure; and

determining if an amount of data stored in the socket receive buffer is less than the bulk read size, if the flag is set.

5 6. The method of claim 5, wherein if the amount of data stored in the socket receive buffer is less than the bulk read size, the bulk read function is not activated.

7. The method of claim 6, further comprising:

10 receiving a Transport Control Protocol (TCP) segment from a sending device, wherein the steps of checking the state of the flag in the socket structure and determining if an amount of data in the socket receive buffer is less than the bulk read size are performed in response to  
15 receiving the TCP segment.

8. The method of claim 7, wherein if the amount of data stored in the socket receive buffer is less than the bulk read size, an acknowledgment is sent to the sending

20 device for every alternate TCP segment received.

9. The method of claim 5, wherein the steps of checking a state of the flag, determining if an amount of data stored in the socket receive buffer is less than the bulk  
25 read size, and activating the bulk read function are performed in a Transport Control Protocol (TCP) layer.

10. The method of claim 5, further comprising:

informing a sending device that a full window size  
30 of data is available in the socket receive buffer, if the flag is set and the amount of data stored in the socket receive buffer is less than the bulk read size.

11. The method of claim 4, wherein activating the bulk read function includes:

copying an amount of data equal to the bulk read  
5 size from the socket receive buffer to an application  
buffer; and  
resetting the flag.

12. The method of claim 11, wherein activating the bulk  
10 read function further includes:

determining if there is data stored in the socket receive buffer after copying the amount of data equal to the bulk read size from the socket receive buffer to the application buffer; and

15 sending a window update to a sending device if there is data stored in the socket receive buffer after the copying.

13. An apparatus for performing a bulk read from a  
20 socket receive buffer, comprising:

means for initiating a bulk read function having a bulk read size;

means for determining if an amount of data in the socket receive buffer is equal to or greater than the  
25 bulk read size; and

means for activating the bulk read function only when there is an amount of data in the socket receive buffer equal to or greater than the bulk read size.

30 14. The apparatus of claim 13, wherein the bulk read size is stored in a field in the socket structure.

15. The apparatus of claim 13, wherein the bulk read size is a size identified by a user.

16. The apparatus of claim 13, wherein the means for  
5 activating the bulk read function only when there is an amount of data in the socket receive buffer equal to or greater than the bulk read size operates in response to setting of a flag in the socket structure.

10 17. The apparatus of claim 16, further comprising:  
means for checking a state of the flag in the socket structure; and  
means for determining if an amount of data stored in  
the socket receive buffer is less than the bulk read  
15 size, if the flag is set.

18. The apparatus of claim 17, wherein if the amount of data stored in the socket receive buffer is less than the bulk read size, the bulk read function is not activated  
20 by the means for activating the bulk read function.

19. The apparatus of claim 18, further comprising:  
means for receiving a Transport Control Protocol (TCP) segment from a sending device, wherein the means  
25 for checking the state of the flag in the socket structure and means for determining if an amount of data in the socket receive buffer is less than the bulk read size operate in response to receiving the TCP segment.

30 20. The apparatus of claim 19, further comprising a means for sending an acknowledgment to the sending device for every alternate TCP segment received, if the amount

of data stored in the socket receive buffer is less than the bulk read size.

21. The method of claim 17, wherein the means for  
5 checking a state of the flag, means for determining if an amount of data stored in the socket receive buffer is less than the bulk read size, and means for activating the bulk read function are part of a Transport Control Protocol (TCP) layer.

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22. The apparatus of claim 17, further comprising:

means for informing a sending device that a full window size of data is available in the socket receive buffer, if the flag is set and the amount of data stored  
15 in the socket receive buffer is less than the bulk read size.

23. The apparatus of claim 16, wherein the means for activating the bulk read function includes:

20 means for copying an amount of data equal to the bulk read size from the socket receive buffer to an application buffer; and

means for resetting the flag.

25 24. The apparatus of claim 23, wherein the means for activating the bulk read function further includes:

means for determining if there is data stored in the socket receive buffer after copying the amount of data equal to the bulk read size from the socket receive  
30 buffer to the application buffer; and

means for sending a window update to a sending device if there is data stored in the socket receive buffer after the copying.

5 25. A computer program product in a computer readable medium for performing a bulk read from a socket receive buffer, comprising:

first instructions for initiating a bulk read function having a bulk read size;

10 second instructions for determining if an amount of data in the socket receive buffer is equal to or greater than the bulk read size; and

third instructions for activating the bulk read function only when there is an amount of data in the

15 socket receive buffer equal to or greater than the bulk read size.

26. The computer program product of claim 25, wherein the bulk read size is stored in a field in the socket structure.

27. The computer program product of claim 25, wherein the bulk read size is a size identified by a user.

25 28. The computer program product of claim 25, wherein the third instructions for activating the bulk read function only when there is an amount of data in the socket receive buffer equal to or greater than the bulk read size are executed in response to setting of a flag  
30 in the socket structure.

29. The computer program product of claim 28, further comprising:

fourth instructions for checking a state of the flag in the socket structure; and

5 fifth instructions for determining if an amount of data stored in the socket receive buffer is less than the bulk read size, if the flag is set.

30. The computer program product of claim 29, wherein if  
10 the amount of data stored in the socket receive buffer is less than the bulk read size, the third instructions are not executed.

31. The computer program product of claim 30, further comprising:

sixth instructions for receiving a Transport Control Protocol (TCP) segment from a sending device, wherein the fourth instructions for checking the state of the flag in the socket structure and fifth instructions for  
20 determining if an amount of data in the socket receive buffer is less than the bulk read size are executed in response to receiving the TCP segment.

32. The computer program product of claim 31, further comprising seventh instructions for sending an acknowledgment to the sending device for every alternate TCP segment received, if the amount of data stored in the socket receive buffer is less than the bulk read size.

30 33. The computer program product of claim 29, wherein the fifth instructions for checking a state of the flag, seventh instructions for determining if an amount of data

stored in the socket receive buffer is less than the bulk read size, and third instructions for activating the bulk read function are executed in a Transport Control Protocol (TCP) layer.

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34. The computer program product of claim 29, further comprising:

sixth instructions for informing a sending device that a full window size of data is available in the socket receive buffer, if the flag is set and the amount of data stored in the socket receive buffer is less than the bulk read size.

10 35. The computer program product of claim 29, wherein

15 the third instructions for activating the bulk read function include:

instructions for copying an amount of data equal to the bulk read size from the socket receive buffer to an application buffer; and

20 instructions for resetting the flag.

36. The computer program product of claim 35, wherein

the third instructions for activating the bulk read

function further include:

25 instructions for determining if there is data stored in the socket receive buffer after copying the amount of data equal to the bulk read size from the socket receive buffer to the application buffer; and

instructions for sending a window update to a  
30 sending device if there is data stored in the socket receive buffer after the copying.

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37. The method of claim 1, further comprising placing the bulk read function in an inactive state if an amount of data in the socket receive buffer is not equal to or greater than the bulk read size.

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38. The apparatus of claim 13, further comprising means for placing the bulk read function in an inactive state if an amount of data in the socket receive buffer is not equal to or greater than the bulk read size.

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39. The computer program product of claim 29, further comprising fourth instructions for placing the bulk read function in an inactive state if an amount of data in the socket receive buffer is not equal to or greater than the bulk read size.